The Rip Tide

The Bi-monthly E-newsletter of the New Hampshire Coastal Program **October 2005**

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NHCP Hosts Trashformation to Raise Awareness About Marine Debris

Girl Scout Troop 2290 Members (from left to right) Tricia, Taylor, Katelyn and Abby with artist Kristen Lanzer.

"Where do you think we should put that?" asked artist Kristen Lanzer.

She and members of Girl Scout Troop 2290 scanned the piece for just the right spot to place the styrofoam cup, which only a few hours before had been a lethal threat to marine life.

On Saturday, September 17, the Coastal Program hosted its first trashformation event at the Seacoast Science Center in Rye to coincide with International Coastal Cleanup Day. New Hampshire volunteers cleaned up trash and other marine debris at over 20 sites on the Seacoast. Immediately following the cleanup, artist Kristen Lanzer worked with participants to create a community-built sculpture made out of some of the collected trash. Approximately 50 attendees dropped off debris or stopped to share a snack and either watch or help Lanzer. The sculpture also contains cards stating facts about marine debris.

International Coastal Cleanup Day is part of a worldwide event sponsored by The Ocean Conservancy. The Blue Ocean Society coordinated International Coastal Cleanup day in New Hampshire with Coastal Program funding. This year 1,120 volunteers picked up 7, 470 pounds of trash. The most common items were cigarette butts, food wrappers and containers, and caps and lids.

The debris that adorns the trashformation represents a host of human activities, and includes a cell phone, oven mitt and empty bottle of Bud.

"There is potential in every object out there. It's about seeing it as more than what it is. What will it be next?" said Lanzer.

Lanzer used a belt and rope to dangle the remains of wire lobster traps from the middle of the sculpture. Girl Scout Troop 2290 took a keen interest in helping attach the trash and helped Lanzer place the more unique pieces- including a plastic red spider, army helmet and flip flops among the more common- rope, plastic silverware and bottles.

Several dangerous pieces of debris turned up during the cleanup and on the sculpture, including rope, balloons and six pack holders. Debris is one of the biggest problems facing marine life, which can affect their ability to move, eat and care for their young. Debris also degrades habitats and poses a risk and eyesore to human beachgoers and boaters.

Kerry Hurd, a volunteer at the underwater site at Prescott Park and trashformation attendee, said that one of the most interesting pieces of debris he found was a lego person. He also saw plenty of bottles and cans, including several that contained living crabs that had crawled in and gotten stuck.

Hurd carries sea snips, or medical shears, so that he can free these jailed crabs.

Kristen Lanzer works on the Trashformation sculpture.

"I don't like seeing stuff like that," said Hurd, who always carries a catch bag with him on dives to pick up the underwater trash he finds.

Debris comes from both land-based and water-based sources. Sometimes it travels from areas inland to end up on the coast. In New Hampshire, the most common marine debris are cigarette butts, picnicking supplies, and gear associated with recreational and commercial fishing.

Coastal Program staff came up with the idea for the Trashformation during a brainstorming session. The wheels began turning when staff shared their previous experiences. Soule had done a similar event at a previous job with students. Beth Lambert had been to a "Trash Bash" at a recycling center, where each participant made art out of the materials provided.

Coastal Program staffers Sally Soule, David Murphy, and Mary Power built the basic pyramid form for the sculpture out of materials from Soule's home renovations.

The sculpture will be on display for public viewing at the DES Concord office, 29 Hazen Drive, from October 27 through November 2 from 8 a.m. to 4 p.m.

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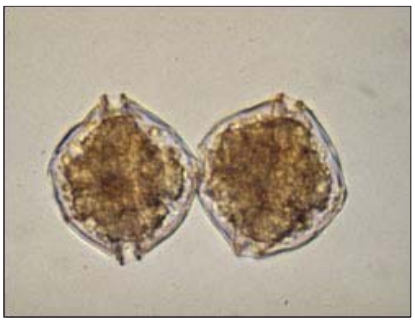
Red Tide Reaches Historic High in New Hampshire in 2005



Red tide is caused by microscopic algae.

Signs with captions like, "Clams not from New England," or "Our Seafood is Safe," appeared at many local restaurants last summer.

A massive regional bloom of the toxic producing algae that causes the potentially fatal Parlaytic Shellfish Poisoning (PSP) syndrome and the water condition commonly known as "red tide" resulted in shellfish bed closures from Maine to Massachusetts during the 2005 season. The summer saw the longest closures in New Hampshire's history, cutting the recreational season short and disrupting the commercial harvest.

The DES Shellfish program closed shellfish beds twice in New Hampshire due to high toxin levels detected in shellfish. The closures delayed the commercial harvest in New Hampshire, but didn't result in a big loss. However, the commercial loss was severe in Maine and Massachusetts.

Some microscopic algae produce toxins, which accumulate inside shellfish like clams, oysters and mussels as they filter water through their bodies as part of their feeding routine. Although there are several types of algae that cause various types of illnesses, the major concern in New Hampshire is the species *Alexandrium,* which causes PSP. Not all species of algae produce toxins.

Deceptively, the term red tide has nothing to do with the tide. The reddish discoloration follows an intense bloom of some species of algae. However, despite the term, the water does not always turn red when levels of algae are high.

Chris Nash, DES Shellfish Program Director, said that people identify with the term "red tide," and it continues to stick.

Shellfish contaminated with the toxin that causes PSP can be fatal to humans within 24 hours of consumption, and symptoms of nonfatal cases include burning, numbness, drowsiness, incoherent speech, and respiratory paralysis. There have been no PSP deaths in New Hampshire. PSP also affects marine life, like birds and whales.

Closures were widespread this season. Before recreational harvesting, call the Clam Hotline at 1-800-43-CLAMS for the most up-to-date information on closures.

Algae blooms happen offshore each year in the spring and early summer in response to increased sunlight and nutrient levels. The problem occurs when the blooms are blown closer to the shore by wind and water currents. High levels of spring runoff, which contains nutrients, associated with the unusually heavy melt from the snows last winter is believed to have contributed to the intense 2005 bloom. In addition, the high winds during two major storms in May contributed to the blooms reaching nearshore areas.

"The blooms were bad enough, but the wind blew them right in," said Nash.

By the end of autumn, the algae settle in offshore ocean sediments in the form of cysts, where they lie dormant for the winter. The cycle repeats itself the following spring, when the cysts germinate into free-swimming, reproducing cells.

DES weekly monitored blue mussels at its Hampton site, which is a popular area for recreational clamming, and Star Island, an offshore area near a commercial aquaculture site. Blue mussels are used because they quickly accumulate the toxin that causes PSP. Other sites and species were monitored as needed. What was unique about this year was that monitoring was needed farther inland than usual, said Nash.

Shellfish closures due to PSP toxins for offshore waters began on May 5 and nearshore waters on May 12. Offshore waters was lifted by one reopening on July 26. Nearshore waters were opened in two steps. Nearshore mussels opened on July 21, and nearshore surf clams opened on September 21.

In New Hampshire, the Department of Environmental Services, Department of Health and Human Services, and Department of Fish and Game work together to protect people from eating unsafe shellfish.

Recreational clamming is a popular activity in New Hampshire.

DES is responsible for shutting down shellfish beds when toxins are detected in levels that exceed standards for consumption. Fish and Game enforces shellfish closures and maintains the Clam Hotline at 1-800-43-CLAMS for the most up-to-date information on closures. Weekly updates are normally posted by 3 p.m. on Fridays during the harvesting season. Health and Human Services inspects shucking facilities, where shellfish are processed. There is also an elaborate network for communicating about where out-of-state shellfish comes from so that the origination of a contaminated batch can be identified quickly, said Nash.

The Great Bay Coast Watch, a volunteer water quality monitoring group, helped collect mussel samples and transport them to the DES lab in Concord. Volunteers also regularly identify algae species in water samples and report anything unusual to Nash.

Between 1987 and 2002, there have been eight years where closures were instituted in New Hampshire due to PSP toxins. No closures were instituted from 1999-2002, although closures were necessary in 2003 and 2004.

Historically, PSP has been largely unknown in New England, but was reported in Canada 100 years ago. The first PSP case in Maine was in 1958 near the Canadian border. The first widespread bloom affecting southern areas, including New Hampshire, was in 1972.

To learn more about the DES Shellfish Program, visit: http://www.des.nh.gov/wmb/shellfish/.

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New Volunteer Monitoring Project Looks at Living Indicators

Bugs have a story to tell about water quality.

David Neils, foreground, and Lisa Farley, background, demonstrate how to retrieve rock baskets.

The Cocheco River Watershed Coalition (CRWC) in cooperation with the DES Coastal and Biomonitoring Programs launched a new monitoring project during the summer/fall of 2005 at sites along the Cocheco River and its tributaries. Ten CRWC volunteers gathered data on macroinvertebrates, which are living organisms without a backbone that can be seen with the naked eye. The Coastal Program provided funding to CRWC for equipment, supplies and coordination, and Biomonitoring provided volunteer training, field oversight and data analysis. The Coastal Program also provided funding for a Biomonitoring Program intern.

Lorie Chase, CRWC Program Coordinator, and Cal Schroeder, CRWC Chair, envisioned a project where volunteers could learn while contributing to the knowledge base on the Cocheco River Watershed. CRWC continues to collect information on the chemical properties of water, like dissolved oxygen and pH, but up until now had not looked at biological indicators.

"The beauty of the bugs is that they live there all the time. What you find gives you the big picture of what's going on with the water," said Sally Soule, NHCP Nonpoint Source Pollution Coordinator.

Tolerant macroinvertebrates can thrive in polluted conditions while the intolerant are more sensitive. For example, mayflies, stoneflies and caddisflies struggle to survive in polluted waters, while midges and aquatic worms are often found in these conditions.

According to Soule, another indicator is the ratio of pollution intolerant to tolerant species. If the habitat type is ideal for intolerant types of macroinvertebrates, but a large proportion of the individuals found are pollution tolerant, there could be a water quality problem.

In September, CRWC volunteers collected macroinvertebrates using kick nets at ten sites, most of them in Rochester and Farmington on the Cocheco, Isinglass, Rattlesnake, Kicking Horse, Ax Handle, Fresh Creek and Ela Rivers. Volunteers identified specimens while in the field. They also collected specimens from five additional sites using rock baskets, which are wire enclosures that contain rocks and create macroinvertebrate habitat. Rock baskets were deployed in July and collected in September. Specimens from the rock baskets were preserved and taken to the DES lab for identification to the genus and species level.

Biomonitoring and chemical monitoring complement each other in understanding water quality. Biomonitoring incorporates the cumulative effects of water pollution while the results of a single water sample are limited to that

specific date and time. Chemical properties can be sensitive to changing conditions, like intermittent discharges or periodic storm events, according to David Neils, DES Biomonitoring Program Coordinator.

CRWC and DES will complete a report that combines its data on biological health with physical and chemical characteristics and will present the project results to the public this winter.

"The report will be rather innovative because it will combine biological health and physical and chemical characteristics," said Chase.

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ANNOUNCEMENTS

NHCP Staff Work Together to Shape Program's Future

This fall, the Coastal Program begins its strategic planning process. The goal is to develop a plan for the next several years that guides future action.

Over the last few years, NHCP has undergone many changes, including federal budget cuts, a programmatic move to DES, a physical move to a new office and the transition of staff. It is the right time to examine the most effective ways to use our resources to best serve local needs.

On September 28 and October 13, staff attended strategic planning sessions facilitated by Beth Lambert, Coastal Restoration Coordinator. The sessions were a mix of group discussions, small group discussions and hands on activities. Staff examined the Coastal Program's mandates under the Coastal Zone Management Act, the federal legislation that authorizes the program. In addition, staff brainstormed about potential activities for the program and identified strengths and weaknesses. The next strategic planning session is scheduled for October 26.

New Hampshire Coastal Waters Granted "No Discharge" Designation

The U.S. Environmental Protection Agency (EPA) has approved New Hampshire's request to designate its coastal waters as a No Discharge Area. This designation applies to all of New Hampshire's coastal waters, and means that discharges of treated and untreated boat sewage would be prohibited within three miles of the shore. DES submitted the proposal to EPA in July.

Before making a No Discharge designation, EPA and the state make sure that there are enough pumpout facilities where boaters can get their holding tanks pumped out. New Hampshire's coastline has an estimated 4,593 boats, of which 962 are large enough to have a "head", or toilet on board. The pumpout facilities include five that are fixed or shore based, and one that is a pumpout boat. Boat sewage can lead to health problems for swimmers, closed shellfish beds and marine habitat degradation. New Hampshire is the second state in New England to designate all of its coastal waters as No Discharge.

Grant Opportunities Available

Environmental Technology Development Grants

The Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET) invites preliminary proposals to its Environmental Technology Development Program for funding in FY 2006-2007. Through this program, CICEET makes strategic investments in the development and application of technology to monitor, manage, and prevent the contamination and degradation of coastal and estuarine waters and habitats in the United States. Information about this Request for Proposals is available online at http://ciceet.unh.edu.

A partnership of the University of New Hampshire and the National Oceanic and Atmospheric Administration, CICEET develops tools for clean water and healthy coasts nationwide.

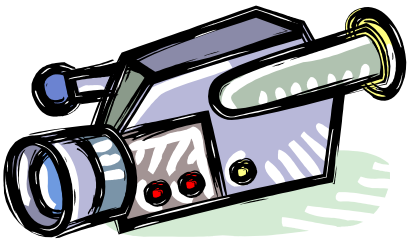
Habitat Restoration Grants

In partnership with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service's Community-Based Restoration Program, the Gulf of Maine Council provides grants to further the goal of habitat restoration and to support a strategic approach to marine, coastal and riverine habitat restoration. Applications are due November 18. For more information, go to http://www.gulfofmaine.org/habitatrestoation/.

Marine Debris Prevention and Removal Grants

The NOAA Restoration Center's Marine Debris Program funds locally driven, community-based marine debris prevention and removal projects that will benefit coastal habitat, waterways and NOAA trust resources, including anadromous fish. Proposals are due by December 12. For more information, visit http://www.nmfs.noaa.gov/habitat/restoration/funding_opportunities/funding.html

New Hampshire Estuaries Project Announces Septic Scenes Video Contest



The New Hampshire Estuaries Project is conducting a video contest to find the best original two to five minute videos that educate people about their septic systems. The winning videos and several honorable mentions will be edited together in a 30-minute septic system "variety show" that will air on Community Access TV in the 42 communities of New Hampshire's coastal watershed. First prize is $1,000; second prize is $500; and third prize $200. Deadline for the entries is 4 p.m., October 28. For more information and to download an entry form visit http://www.nhep.unh.edu/scenes.htm.

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New Publications & Planning Tools

Federal Consistency Guide

The Coastal Program released the updated version of the Federal Consistency Guide, which outlines the federal consistency process in layman's terms. Navigate the online document by clicking on internal links. In addition, external links to other websites provide access to more information and resources. View this interactive PDF at http://www.des.nh.gov/Coastal/Regulation/ConsistencyGuide2005.pdf.

Effects of Urbanization on Stream Quality at Selected Sites in the Seacoast Region in New Hampshire, 2001-03

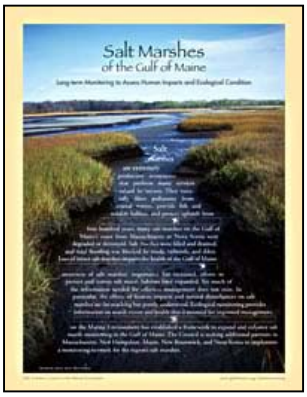
The U.S. Geological Service and NHCP published this scientific investigation report, which includes results from a three-year cooperative study to determine if urban development affects water quality in New Hampshire's coastal watersheds. This study is unique because it provides scientific data about local watersheds and streams. Many studies in the past have been conducted at the national level.

To download a copy, visit http://pubs.usgs.gov/sir/2005/5103/SIR2005-5103_report.pdf.

Salt Marsh Assessment and Restoration Tool - SMART—A Free Computer Model to Support Salt Marsh Restoration Planning

Researchers sponsored by the Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET) developed this computer model to help users design restoration projects that re-establish tidal flow and restore native salt marsh habitat. Users can customize SMART with data specific to their proposed project, and then calculate whether their strategy will restore tidal flow to a level conducive to a healthy salt marsh. They can also predict what will happen if no action is taken. SMART was designed using Gulf of Maine salt marsh vegetation. A CD version of SMART is available free of charge. Please contact Dr. Ray Konisky: rkonisky@wellsreserve.org. To learn more about SMART visit http://ciceet.unh.edu/news/releases/smartRelease.html.

Salt marshes of the Gulf of Maine: Long-term monitoring to assess human impacts and ecological condition



The Gulf of Maine Council's Habitat Monitoring Subcommittee released this publication on the value of salt marshes and the need for a regional salt marsh monitoring network. This four-page overview includes engaging pictures and graphics.

Visit http://www.gulfofmaine.org/habitatmonitoring/ to download a copy.

Directory of Watershed Resources

The New England Environmental Finance Center's revised and updated version of the Directory of Watershed Resources is now available online. The directory is a free, searchable database of environmental funding programs and other support. It provides up-to-date information on assistance available from federal and state government, private foundations, corporations and other organizations. The directory has just been updated to include nearly 300 programs with a New England focus, and includes over 320 national funding/assistance sources as well. Programs listed in the directory support a wide range of environmental activities including watershed restoration, land conservation, capacity building and education. Development of the directory was funded by the U.S. Environmental Protection Agency. Visit the http://efc.muskie.usm.maine.edu/tools.html to access the database.

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CALENDAR OF EVENTS

Fall Foliage Fundraiser to Support Land Conservation

Date: Saturday, October 22, 2005

Time: 7 p.m. – 11 p.m.
Location: Bill Truslow's Studio, 959 Islington St. #2, Portsmouth, NH
Sponsored By: The Seacoast Land Trust
Cost: $40.00

The $40.00 ticket will support the protection and stewardship of open land in the Seacoast. Auctions of outdoor items and local artwork and getaways will be held to support land preservation efforts. A kayak package will also be raffled. The evening will feature Smuttynose brew, wine, hors d'oeuvres and desserts as well as live music by Combo Sabroso. For more information and directions go to www.seacoastlandtrust.org.

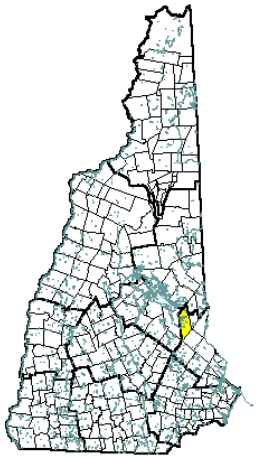
Contact Danna Turslow, executive director, at (603) 433-0963 or danna@seacoastlandtrust.org for more information.

New Hampshire Dredge Management Task Force Meeting

Date: November 2, 2005
Time: 1:30 p.m.
Location: 50 International Drive, Suite 200, Portsmouth, NH
Sponsored By: NHCP

The New Hampshire Dredge Management Task Force (DMTF) is an inter-agency working group formed to develop policies, rules and guidelines for dredging projects in New Hampshire's coastal waters. The federal consistency coordinator serves as the chairperson of the DMTF. For more information, contact Chris Williams at 559-0025 or cwilliams@des.state.nh.us.

The Changing Face of the Seacoast Seminar



Date: Wednesday, November 9, 2005
Time: 7 p.m. - 9 p.m.
Location: UNH Elliott Alumni Center, Durham N.H.
Sponsored By: UNH Carsey Institute/ NH GRANIT

Hear a presentation on growth and development trends in the Seacoast, including personal accounts by residents. A "Best Practices" panel will include presentations by Sandrine Thibault of New Hampshire Office of Energy and Planning, Cliff Sinnott of the Rockingham Planning Commission, and Cynthia Copeland of the Strafford Regional Planning Commission. In addition, UNH researchers will present the results of a year-long project that looked at indicator trends of well-being and health in the Seacoast. Light refreshments will be served.

Supporters of this event include NHCP, the New Hampshire Charitable Foundation, the Robert & Patricia Switzer Foundation, and the UNH Center for Humanities.

Please RSVP with your name and mailing address to changing.face@unh.edu.

For a full listing of Carsey's fall seminars, go to http://www.carseyinstitute.unh.edu/seminars.html.

Great Bay Coast Watch Chili and Chowda Fest

Date: Wednesday, November 16, 2005
Time: 6 p.m. - 9 p.m.
Location: Newington Town Hall, Newington N.H.
Sponsored By: Great Bay Coast Watch

Join Great Bay Coast Watch volunteers, prospective volunteers and interested individuals for this volunteer appreciation and potluck event. Participants will bring their favorite chili, chowder, dessert or drinks. Please call ahead to find out what food is needed.

Please RSVP to Ann Reid at (603) 749-1565 or ann.reid@unh.edu.

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About this e-newsletter

The Rip Tide is NHCP's bi-monthly e-newsletter.

All subscribers (e-mail addresses) on this list are kept confidential and are not shared by NHCP.

Contact Cathy Coletti, editor, at 559-0024 with questions or comments.

About NHCP

NHCP's mission is to "balance the preservation of natural resources of the coast with social and economic needs of this and succeeding generations."

NHCP gained federal approval in 1982 under the provisions of the Coastal Zone Management Act, initially for the areas in proximity to the Atlantic shore and the lower Piscataqua River. In 1988, the Program added areas bordering the Great Bay and tidal rivers, but only up to the statutory (RSA 482-A) limits for tidal flow. In 2004, the landward boundary was again expanded to encompass the total area of the 17 tidal municipalities.

The map depicts New Hampshire's Coastal Watershed area. The 42 communities that make up the watershed are linked by waterways back to the 17 tidal coastal communities and ultimately to the Gulf of Maine.

DES administers NHCP. NHCP is networked with other state agencies, which help enforce the program's 16 coastal policies and conduct reviews of projects in the New Hampshire coastal zone.